

Effluvia will stop at the first of them, unless the Interruption or Discontinuation of the Non-electric be short; because in that Case the Electricity jumps from the End of the first Non-electric to the Beginning of the next, especially if the Air be very dry, even though the Ends of the String should be about a Foot distant, and no Body but the Air between. Sometimes indeed the Distance must not be above an Inch or two.

There are Two Sorts of Electrics *per se*, known by what follows: A Body impregnated with Electricity from one Sort will repel all Bodies that have that Sort of Electricity, till they have lost their own Electricity by coming to some Non-electric. But an Electric *per se* of the other Sort, though excited, will attract all those Bodies, though in a State of Repulsion on account of the other Electricity; and so *vice versa*.

XX. An Account of some Electrical Experiments made before the ROYAL SOCIETY, on Thursday the 22d of January 1740-1. by the Same.

IT being a Matter in Dispute, whether there is any Difference between the Electricity of Glass, and that of Gums and Resins, I made the following Experiments, in order to settle that Point:

I fastened a String of dry Cat-gut (which, when dry, is an Electric *per se*) from one Pillar to the other, at the End of the Table in the Meeting-Room of the

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ROYAL SOCIETY, about Seven Feet from the Floor ; and to the Middle of that Cat-gut fastened a silken Thread about Two Foot long, which hung down, and at its lower End had a Down Feather. Then rubbing the End of a Stick of Wax pretty quick and strongly against my Waistcoat, which was made of Cloth, the Wax became electrical, and attracted the Feather, which stuck to it awhile, and then was repelled from it, as long as it retained the Electricity it had received from the Wax : But, having touched the Feather with my Finger, it lost its Electricity ; and, becoming a Non-electric, was again attracted by the Wax, which gave it fresh Electricity ; and then it was repelled from it, and so *toties quoties*. When the Feather was in its electric State, I applied to it another Stick of Wax, which I first rubbed ; and it repelled the Feather, though it had not touched it before, and did the same as the other Stick of Wax had done.

After that I rubbed a glass Tube, which first attracted and then repelled the Feather, as the Wax had done : And another Tube, being rubbed, repelled the Feather, when it was put into an electric State by the first Tube, without first attracting it. But Non-electrics, such as the Finger, or a Stick, attracted the Feather, when it had first been made electric ; and not only so, but Electrics *per se*, when they were become non-electric, as the Tube unrubbed, or the Wax unrubbed ; nay, the rubbed Tube also, when its End was moistened, or that End of it turned to the Feather, which had been held in the Hand.

Then I made the Feather electric, by the Application of the excited Tube ; and, having rubbed the Wax

Wax to give it Electricity, I brought it near the Feather, which it attracted strongly, though it had repelled it before, when the Feather had been made electric by Wax.

Afterwards I made the Feather electric by the Wax, which first attracted and then repelled it: And, having applied the rubbed Tube to the Feather, it attracted it strongly, though it repelled it when the Feather was made electric by another glass Tube.

*XXI. Electrical Experiments made before the
ROYAL SOCIETY, on Thursday, March
15th 1740-1. by the Same.*

Having shewn lately by some plain Experiments, that the Electricity of Glass is different from that of Sealing-wax; because the Wax attracted a Feather suspended in the Air by a fine Silk, when the rubbed glass Tube repelled it, (as described in the Account of those Experiments) I made the Experiment with a Cake of Rosin instead of Sealing-wax; and it appeared to have the same kind of Electricity as the Sealing-wax. Then considering that the Supporters of any non-electric Conductors of Electricity must themselves be electric, I had a mind to try whether Bodies, endued with either kind of Electricity, were in any-wise different in that Case; which I did by the following Experiments:

I laid a Piece of Wood, Four Foot long, on Two glass Plates, whose Ends stood One Foot beyond the Side of the Table on which they were laid: Then,